

IN THE CLAIMS

1. (Previously Presented) A method of manufacturing an electron source, comprising:

a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of pairs of conductive films arranged in a matrix by the pluralities of row and column wirings, each pair of conductive films being formed through a gap;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying a substantially same constant voltage to each of a plurality of pairs of conductive films connected to the selected row wiring; and

a second voltage application step of applying a voltage having a voltage drop rate of 10 V/sec or more to at least specific pairs of conductive films among a plurality of pairs of conductive films.

2. (Previously Presented) A method of manufacturing an electron source, comprising:

a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of pairs of conductive films arranged in a matrix by the pluralities of row and column wirings, each pair of conductive films being formed through a gap;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying, to the plurality of column wirings, a voltage set to compensate for influence of a voltage drop caused by the selected row wiring; and

a second voltage application step of applying a voltage having a voltage drop rate of 10 V/sec or more to at least specific pairs of conductive films among a plurality of pairs of conductive films.

3. (Currently Amended) A method of manufacturing an electron source, comprising:

a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of conductive films each having an electron-emitting portion that are arranged in a matrix by the pluralities of row and column wirings;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying a substantially same constant voltage to each of a plurality of ~~pairs of~~ conductive films connected to the selected row wiring; and

a second voltage application step of applying a voltage having a voltage drop rate of 10 V/sec or more to ~~at least specific pairs of~~ conductive films among ~~[[a]] the plurality of pairs of~~ conductive films.

4. (Currently Amended) A method of manufacturing an electron source, comprising:

a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of conductive films each having an electron-emitting portion that are arranged in a matrix by the pluralities of row and column wirings;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying, to the plurality of column wirings, a voltage set to compensate for influence of a voltage drop caused by the selected row wiring; and

a second voltage application step of applying a voltage having a voltage drop rate of 10V/sec or more to ~~at least specific pairs of~~ conductive films among ~~the plurality of pairs of~~ conductive films.

5. (Original) The method according to claim 1, further comprising a step of detecting currents flowing through the column wirings.

6. (Original) The method according to claim 5, wherein the step of detecting currents comprises a step of detecting currents flowing through the column wirings in said first voltage application step.

7. (Original) The method according to claim 1, further comprising a step of detecting currents flowing through the row wirings and the column wirings.

8. (Original) The method according to claim 7, wherein the step of detecting currents comprises a step of detecting currents flowing through the row wirings and the column wirings in said first voltage application step.

9. (Original) The method according to claim 1, wherein the activation substance source contains a substance which is deposited on the conductive film to increase an emission current.

10. (Original) The method according to claim 1, wherein the activation substance source is a carbon compound.

11. (Original) The method according to claim 1, wherein said first voltage application step comprises sequentially selecting each of the plurality of row wirings and applying the voltage.

12. (Currently Amended) The method according to claim 1, wherein said second voltage application step comprises applying a voltage to all the plurality of pairs of conductive films connected to [[the]] unselected row wirings.

13. (Currently Amended) A method of manufacturing an image display apparatus having an electron source having, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of electron-emitting devices arranged in a matrix by the pluralities of row and column wirings, and a fluorescent film irradiated with electrons from the electron source,

wherein the electron source is manufactured by [[the]] a method [[defined in claim 1]] comprising:

a step of forming, on the substrate, the plurality of row wirings, the plurality of column wirings, and a plurality of pairs of conductive films arranged in a matrix by the pluralities of row and column wirings, each pair of conductive films being formed through a gap;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying a substantially same constant voltage to each of a plurality of pairs of conductive films connected to the selected row wiring; and

a second voltage application step of applying a voltage having a voltage drop rate of 10 V/sec or more to at least specific pairs of conductive films among a plurality of pairs of conductive films.

14. (New) An image display apparatus comprising:

an electron source having a substrate, a plurality of electron-emitting

devices arranged in a matrix by connection to a plurality of row wirings and column wirings formed on the substrate;

a fluorescent film configured to be irradiated by electrons emitted from the electron-emitting devices to emit light; and

a TV signal receiver,

wherein said electron source is manufactured by a method comprising:

a step of forming, on the substrate, the plurality of row wirings, the plurality of column wirings, and a plurality of pairs of conductive films arranged in a matrix by the pluralities of row and column wirings, each pair of conductive films being formed through a gap;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying a substantially same constant voltage to each of a plurality of pairs of conductive films connected to the selected row wiring; and

a second voltage application step of applying a voltage having a voltage drop rate of 10 V/sec or more to at least specific pairs of conductive films among a plurality of pairs of conductive films.